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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,699	03/09/2001	Kazuya Kobayashi	OOCL-50 (3KF-01S0082)	6987
7590	08/25/2004		EXAMINER YODER III, CHRISS S	
Straub & Pokotylo 1 Bethany Road Building 6, Suite 83 Hazlet, NJ 07730			ART UNIT 2612	PAPER NUMBER

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/803,699

Applicant(s)

KOBAYASHI, KAZUYA

Examiner

Chriss S. Yoder, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/1/01 & 11/17/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Drawings***

The drawings are objected to because Figure 7B: S122 states "IN-FORCUS", the examiner believes this should actually read "IN-FOCUS". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Murata (Japanese publication 03-117277).
2. In regard to claim 1, note Murata discloses the use of an automatic focus detecting apparatus, in which an optical image is formed on an imaging device via a photographing lens (figure 2: 1-4), and the focal point of the photographing lens is detected on the basis of the high frequency component contained in a video signal generated from the imaging device even under a light source that is flickered at a flicker period (page 10, lines 8-20; and page 9, lines 10-16), comprising detecting means for sampling the video signal generated at a predetermined time interval at a different timing to deliver a plurality of video signal components (page 10, lines 8-20; and figure 6: F1-F3), while changing the image forming state on said imaging device, at a time interval equal to an integer number times as much as said flicker period and equal to an integer number times as much as the read out period of the video signal (page 10, lines 8-20; and figure 6: F1-F3), and detecting the peak position of the high frequency component contained in each group of the video signal components (page 10, lines 15-20), and calculating means for performing an interpolation calculation based on a plurality of peak positions obtained by said detecting means so as to detect the in-focus position of the photographing lens (page 10, lines 15-20).
3. In regard to claim 2, note Murata discloses that the calculating means is for obtaining an arithmetic average value of a plurality of peak positions (page 10, lines 15-20).

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4. In regard to claim 6, note Murata discloses the use of an automatic focus detecting apparatus used in an electronic camera that permits photographing an object as an electronic image by bringing the object into focus even under a light source flickered at a certain flicker period (figure 2: 1-4), comprising a photographing lens system including a focus lens movable for the focus adjustment (figure 2: 1), lens driving means for driving the focus lens of the photographing lens system (figure 2: 3) an imaging device for forming an optical image of the object transmitted through the photographing lens system and for converting the optical image into a video signal (figure 2: 4), detecting means for sampling, while driving a photographing lens, a video signal generated from the imaging device at a time interval equal to an integer number times as much as said flicker period and sampling a high frequency component contained in the video signal at a time interval equal to an integer number times as much as a predetermined period of the video signal so as to divide the video signal into a plurality of groups (page 10, lines 8-20; and figure 6: F1-F3), and detecting the peak position of the high frequency component contained in each of the signal components for each group (page 10, lines 8-20; and figure 6: F1-F3), arithmetic means for performing an interpolation calculation for calculating the in-focus position of the photographing lens on the basis of a plurality of peak positions obtained by said detecting means (page 10, lines 8-20), and control means for controlling the lens driving means to move the photographing lens to the calculated in-focus position (figure 2: 3 and 10).

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5. In regard to claim 7, note Murata discloses that the arithmetic means serves to obtain an arithmetic average value of said plurality of peak positions (page 10, lines 15-20).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata (Japanese publication 03-117277) in view of Higashihara et al. (US Patent # 6,473,126).

7. In regard to claim 3, note Murata discloses an automatic focus detecting apparatus as claimed in claim 1. Therefore, it can be seen that the Murata device fails to disclose the use of a calculating means that performs a weighted average interpolation calculation for the plurality of peak positions. Higashihara discloses that the use of a calculating means is for performing a weighted average (column 36, lines 1-10). Higashihara teaches that the use of a weighted average is preferred in order to reduce the error in focus detection, resulting from hand vibrations or movement of the object (column 36, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Murata device to use a weighted average to calculate the focus as suggested by Higashihara.

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8. In regard to claim 4, note the primary reference of Murata in view of Higashihara discloses the use of an automatic focus detecting apparatus that uses weighted averaging to calculate the optimal focus position. Therefore, it can be seen that the primary reference fails to disclose that in the weight average interpolation calculation, the coefficient for multiplying the peak position is  $2^n$ . Although the primary reference does not directly disclose that the coefficient is  $2^n$ , it would have been obvious to one of ordinary skill in the art to use this coefficient ( $2^n$ ) as a matter of design choice.

9. In regard to claim 5, note Murata discloses that the video signal is sampled by said detecting means into three group of the video components read out at a period 3 times as much as the read out period (page 10, lines 8-20; page 16, lines 5-12; and figure 6: F1-F3; each "O" represents on of the first through third focus values obtained in one period) and selecting the middle value that is used as the optimal position for focusing (page 17, lines 14-17). Therefore, it can be seen that the calculating means performs a weighted average interpolation calculation with the heaviest weight put in the intermediate position among the three peak positions obtained by the detecting means. Higashihara discloses the use of a weighted averaging calculation (column 36, lines 1-10), and the heaviest weight being put on the intermediate position is merely a design choice. Higashihara teaches that the use of a weighted average is preferred in order to reduce the error in focus detection, resulting from hand vibrations or movement of the object (column 36, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Murata device to use a weighted average to calculate the focus as suggested by Higashihara.

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10. In regard to claim 8, note Murata discloses an automatic focus detecting apparatus as claimed in claim 1. Therefore, it can be seen that the Murata device fails to disclose the use of an arithmetic means performs an interpolation calculation for obtaining a weighted average of said plurality of peak positions. Higashihara discloses that the use of an arithmetic means is for performing a weighted average (column 36, lines 1-10). Higashihara teaches that the use of a weighted average is preferred in order to reduce the error in focus detection, resulting from hand vibrations or movement of the object (column 36, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Murata device to use a weighted average to calculate the focus as suggested by Higashihara.

11. In regard to claim 9, note the primary reference of Murata in view of Higashihara discloses the use of an automatic focus detecting apparatus that uses weighted averaging to calculate the optimal focus position. Therefore, it can be seen that the primary reference fails to disclose that in the weight average interpolation calculation, the coefficient for multiplying the peak position is  $2^n$ . Although the primary reference does not directly disclose that the coefficient is  $2^n$ , it would have been obvious to one of ordinary skill in the art to use this coefficient ( $2^n$ ) as a matter of design choice.

12. In regard to claim 10, note Murata discloses that the video signal is read out said detecting means into three group of the video components read out at a period 3 times as much as the read out period (page 10, lines 8-20; page 16, lines 5-12; and figure 6: F1-F3; each "O" represents on of the first through third focus values obtained in one period) and selecting the middle value that is used as the optimal position for focusing



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(page 17, lines 14-17). Therefore, it can be seen that the calculating means performs a weighted average interpolation calculation with the heaviest weight put in the intermediate position among the three peak positions obtained by the detecting means. Higashihara discloses the use of a weighted averaging calculation (column 36, lines 1-10), and the heaviest weight being put on the intermediate position is merely a design choice. Higashihara teaches that the use of a weighted average is preferred in order to reduce the error in focus detection, resulting from hand vibrations or movement of the object (column 36, lines 1-10). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Murata device to use a weighted average to calculate the focus as suggested by Higashihara.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US005430483A: note the use of a flicker detecting device to compensate for flickering in an image.

US006731339B2: note the use of image focusing based on the high-frequency component in the image.

US006630953B1: note the use of flicker control in an imaging apparatus.

US005204741A: note the use of flicker compensation in an imaging device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (703) 305-0344. The examiner can normally be reached on M-F: 8 - 4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CSY  
August 19, 2004



NGOC-YEN VU  
PRIMARY EXAMINER